

KIM -- 09/751,451
Client/Matter: 082123-0275722

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously presented) An auto exposing apparatus for an image sensor, the apparatus comprising:

first counting means receiving image data from an image sensor for counting a number of first pixels for an image frame, each of the first pixels having a luminance value associated therewith that is higher than a first predetermined level;

second counting means receiving image data from the image sensor for counting a number of second pixels for the image frame, each of the second pixels having a luminance value associated therewith that is lower than a second predetermined level;

storing means for storing an optimum exposure time for each luminance level; and

brightness analyzing means for determining whether the image frame is to be controlled to be brighter or darker in response to the numbers of first and second pixels, and selecting the luminance level of the field output as an address of the storing means, wherein a exposure time corresponding to the address outputted from the brightness analyzing means is output to the image sensor to control the exposure time of the pixels.

2. (Original) An apparatus according to claim 1, wherein the brightness analyzing means includes:

a first level decision unit for deciding the brightness level of a bright screen in response to the number of first pixels;

a second level decision unit for deciding the darkness level of a dark screen in response to the number of the second pixels; screen control determining means for determining whether the image frame is to be controlled to brighter or darker in response to the numbers of the first and second pixels and outputting a screen control determining signal indicative thereof; and

selecting means for selecting an address of the storing means in response to the screen control determining signal and an output of one of the level decision units.

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3. (Currently amended) An apparatus according to claim 1, wherein the first and second predetermined levels are the same.

4. (Currently amended) An apparatus according to claim 1, wherein the first and second predetermined levels are different.

5. (Currently amended) An auto exposing apparatus for an image sensor, the apparatus comprising:

- a first counter constructed and arranged to receive image data from an image sensor for counting a number of first pixels for an image frame, each of the first pixels having a luminance value associated therewith that is higher than a first predetermined level;

- a second counter constructed and arranged to receive image data from the image sensor for counting a number of second pixels for the image frame, each of the second pixels having a luminance value associated therewith that is lower than a second predetermined level;

- a look up table storing an optimum exposure time for each luminance level; and

- a brightness analyzer constructed and arranged to determine whether an imaged field is to be controlled to be brighter or darker in response to the numbers of first and second pixels, and selecting luminance level of the field output as an address of the storing means, wherein a exposure time corresponding to the address outputted from the brightness analyzing means is output to the image sensor to control the exposure time of the pixels.

6. (Original) An apparatus according to claim 5, wherein the brightness analyzer means includes:

- a first level decision unit for deciding the brightness level of a bright screen in response to the number of first pixels;

- a second level decision unit for deciding the darkness level of a dark screen in response to the number of the second pixels;

- a screen control determiner constructed and arranged to determine whether the image field is to be controlled to be brighter or darker in response to the numbers of the first and second pixels and outputting a screen control determining signal indicative thereof; and

- a selector constructed and arranged to select an address of the look up table in response to the screen control determining signal and an output of one of the level decision

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units.

7. (Currently amended) An apparatus according to claim 5, wherein the first and second predetermined levels are the same.
8. (Currently amended) An apparatus according to claim 5, wherein the first and second predetermined levels are different.
9. (Currently amended) An apparatus according to claim 5, wherein the look up table is a ROM.
10. (Currently amended) An apparatus according to claim 5, wherein the look up table is a PROM.
11. (Currently amended) A method ~~for auto-exposing apparatus an image sensor~~, comprising:
 - receiving image data from an image sensor;
 - counting a number of first pixels for an image frame, each of the first pixels having a luminance value associated therewith that is higher than a first predetermined level;
 - counting a number of second pixels for the image frame, each of the second pixels having a luminance value associated therewith that is lower than a second predetermined level;
 - storing an optimum exposure time for each luminance level;
 - analyzing whether the image frame is to be controlled to be brighter or darker in response to the numbers of first and second pixels, and selecting the optimum luminance level of the field; and
 - controlling exposure time based on the optimum luminance level.
12. (New) An auto exposing apparatus, comprising:
 - a first counter that receives image data from an image sensor to count a number of first pixels for an image frame, each of the first pixels having a luminance value associated therewith that is higher than a first predetermined level;

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a second counter that receives image data from the image sensor to count a number of second pixels for the image frame, each of the second pixels having a luminance value associated therewith that is lower than a second predetermined level;

a storage that stores an optimum exposure time for each luminance level; and

a brightness analyzer that determines whether the image frame is to be controlled to be brighter or darker in response to the numbers of first and second pixels, and that selects the luminance level of the field output as an address of the storage, wherein a exposure time corresponding to the address outputted from the brightness analyzer is output to the image sensor to control the exposure time of the pixels.

13. (New) An apparatus according to claim 12, wherein the first and second predetermined levels are the same.

14. (New) An apparatus according to claim 12 wherein the first and second predetermined levels are different.

15. (New) An apparatus according to claim 12, wherein the brightness analyzer comprises:

a first level decision unit for deciding the brightness level of a bright screen in response to the number of first pixels;

a second level decision unit for deciding the darkness level of a dark screen in response to the number of the second pixels;

a screen control determiner constructed and arranged to determine whether the image field is to be controlled to be brighter or darker in response to the numbers of the first and second pixels and outputting a screen control determining signal indicative thereof; and

a selector constructed and arranged to select an address of the storage in response to the screen control determining signal and an output of one of the level decision units.

16. (New) An apparatus according to claim 12, wherein the storage is a ROM.

17. (New) An apparatus according to claim 12, wherein the storage is a PROM.